

REMARKS/ARGUMENTS

Restriction and Election Requirement

1. The Examiner has made a restriction requirement under 35 U.S.C. 121 and 372, identifying six groups of claims, and has required the Applicant to elect a single invention among those identified by the Examiner, as follows.

Group I, claim(s) 1-9, drawn to a timing element comprising a delay composition in a sheath, the delay composition comprising a reactive polymer material.

Group II, claim(s) 10-18, drawn to a method of making a timing element comprising a reactive polymeric material in a sleeve.

Group III, claim(s) 19-21, drawn to an initiator comprising a timing element, the timing element comprising a reactive polymeric material.

Group IV, claim(s) 22-24, drawn to a method of making a delay initiator comprising a reactive resin.

Group V, claim(s) 25-27, drawn to a method of making a delay initiator comprising a reactive polymeric material.

Group VI, claim 27, drawn to a segment of reactive polymeric material.

Applicant's Election

2. Applicant elects, with traverse, Group I, identified by the Examiner as comprising claims 1-9.

Traversal of the Restriction Requirement

3. The basis for the restriction requirement is the Examiner's allegation that, in view of Shilliday et al. U.S. Patent 6,886,469, the presence of a reactive polymeric material does not amount to a special technical feature that is novel or unobvious. Shilliday et al. is said to disclose a sheath 214 comprising the GAP polymer. But as discussed below, the feature of a solid core of a reactive polymeric material as the timing element, at least as defined in the amended claims presented herewith, is novel and unobvious over Shilliday et al. Therefore, the stated basis for the restriction requirement does not exist.

4. The claims as amended herein define a novel and unobvious technical feature, to wit, a solid core of a polymeric reactive material optionally having one or both

of an oxidizer component and a fuel component dispersed therein. This feature is not shown in the art, and is therefore a novel and unobvious feature, which unifies the claims.

In view of the foregoing, withdrawal of the restriction requirement and examination of all pending claims is respectfully requested.

Rejection of Claims 1 and 2 As Being Anticipated By Shilliday et al.

5. Claims 1 and 2 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,886,469 B2 ("Shilliday et al.").

6. The reference is cited as disclosing a sheath 214 comprising the reactive polymeric material composition, glycidyl azide polymer ("GAP"). The Examiner refers to column 4, line 42 through column 5, line 30 of the reference, and Figure 2.

7. This ground of rejection is respectfully traversed. As shown in Figure 2 and described in the portion of the specification cited by the Examiner, sheath 214 is fabricated from ductile, easily extrudable metals such as tin, silver, antimony or copper, or plastic such as polyethylene, polyurethane elastomer or fluoroelastomers (column 5, lines 20-24). GAP is not among the listed materials. The only reference to GAP is made in connection with the Shilliday et al. disclosure of polymer binders which may be used to bind the particulate pyrotechnic materials of the distributed charge. See column 5, lines 10-19. As disclosed at column 4, lines 42-57, the core of ignition material 212 "is a moldable, formable, or extrudable rapidly burning pyrotechnic material, such as hydroborate fuel with various nitrate oxidizers..." An example given is "Rapid Deflagrating Cord (RDC)..."

8. In any case, the claims as amended herein define the reactive material as comprising a solid core of reactive polymeric material and, optionally, one or both of a fuel component and an oxidizer component dispersed within the solid core. Support for this amendment is found in the application as originally filed including, for example, paragraphs [0025] and [0033] and Figure 1 thereof. Shilliday et al. does not disclose or suggest such structure, but only discloses the use of GAP material as a binder for a particulate pyrotechnic material. Inasmuch as Shilliday et al. lacks any disclosure of a solid core of reactive polymeric material optionally having a fuel component

and an oxidizer component dispersed within the solid core, Shilliday et al. is not capable of sustaining a rejection under 35 U.S.C. 102.

9. It may also be noted that Shilliday et al. is concerned with ignitable gas-generating material for inflating gas bags, such as inflatable restraint systems for automobiles. In this regard, see column 1 of Shilliday et al. under the heading "Background of the Invention". The requirement for such devices is to generate a volume of gas as quickly as possible in order to inflate the gas bag within the milliseconds between impact and the passenger being hurled against the interior of the vehicle.

10. In contrast, Applicant's invention is concerned with an energetic linear timing element in which a controlled rate of "burn" along the length of the encased reactive polymeric material is desired, to provide a preselected delay period.

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In view of foregoing, it is respectfully submitted that each of the pending claims is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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